

The association of the Northern Carmine Bee-eater *Merops n. nubicus* with mammals, birds and motor vehicles in Ethiopia

by Jeffery Boswall

Received 19th February, 1970

The fact that the Northern Carmine Bee-eater *Merops n. nubicus* perches on the backs of other species, apparently first recorded by Baker (1867) and subsequently by a number of authors, is now well-established. That its reason for doing so is to use its steed as a "beater" also seems beyond doubt. The purpose of this short note is partly to add some further records of the use of animate perches (in particular, of the use of two "new" mammals and one "new" bird), but also to emphasise that the birds' association with these creatures (and also with moving motor vehicles) has another aspect: that they also follow *in flight* moving mammals, birds and motor vehicles to catch prey thus flushed.

OBSERVATIONS

In 1969 I visited the estate of Mitchell-Cotts at Dubte near Tendaho, Wollo Province, Ethiopia, on 1st April; and Awash National Park, Shoa Province, from 3rd to 7th April, from 8th to 26th September, and on 28th September.

Very briefly, my notes are as follows:

- 1st April Several perched on the backs of goats *capra* sp.
3rd-7th April Several Kori Bustards *Ardeotis kori* with single Bee-eaters on their backs. A bee-eater flew with the landrover alongside the vehicle holding station just outside the driver's window swooping down at intervals after prey flushed by the vehicle.
- 14th Sept. Saw single bee-eaters on three occasions, flying along behind galloping Beisa Oryx *Oryx gazella beisa* at a distance of three to 10 metres.
- 15th Sept. Among a herd of 132 Oryx six bee-eaters were present. When the herd gallops the birds fly either behind or alongside the antelopes at about shoulder height, occasionally swooping down as if after prey.
- 22nd Sept. Among a party of about a dozen Ostriches *Struthio camelus*, two had single bee-eaters on their backs.
- 23rd Sept. I followed one very approachable lone Oryx with an attendant bee-eater for about ten minutes. Twice the bird sallied after prey obviously put up by the moving mammal; once it flew a much greater distance in pursuit of prey obviously *not* flushed by the Oryx.
- Later we happened to stop the landrover about twenty metres from a bush on which a bee-eater was perched. Twice the bird, despite our presence outside the vehicle, flew over and hovered over the vehicle at about ten feet.
- 24th Sept. Doug Fisher and Ian Robertson filmed two bee-eaters on the back of a bustard; and also a single bird that twice hawked after prey—on one occasion distant prey. They also saw a bee-eater perched on a Secretary Bird *Sagittarius*

28th Sept.

serpentarius and filmed two others flying slowly along together behind the same Secretary Bird. One bee-eater on a Camel *Camelus dromedarius*; three others on goats.



Photo: Douglas Fisher

Fig. 1 Arabian Bustard with Northern Carmine Bee-eater, near Tendaho, Wollo Province, Ethiopia, May 1970.



Photo: Douglas Fisher

Fig. 2 Camel with Northern Carmine Bee-eater, near Asaita, Wollo Province, Ethiopia, May 1970.

8th-16th Sept. Subsequent examination of film of oryx showed: (a) two bee-eaters perched simultaneously on an oryx; (b) that the usual position for the bee-eater is the highest point of the mammal's spine towards the rear end; and (c) that one oryx with a bee-eater in the usual position when it threw back its head (reason unknown) would be unable to reach the bee-eater with its horns; in the same position the bird also seems to be out of range of the mammal's tail.

Ian Robertson, an ecologist with a particular interest in antelopes, who had lived in the area for nearly a year, told me that he had "regularly" seen bee-eaters on the backs of Beisa Oryx and Kori Bustards and "rarely" on Secretary Birds and Wart Hogs *Phachochoerus aethiopicus*. He had more than once seen a bird attempt to land on the back of a Tufted Guinea Fowl *Numida meleagris* but the game bird would not allow it. He had never seen one on a Soemmering's Gazelle *Gazella soemmerringii* although it is a fairly common mammal in the park. This is puzzling.

Curtis Buer, a U.S. Peace Corps volunteer, had lived at Awash more than a year and he confirmed that in his experience bee-eaters will frequently follow a landrover.

DISCUSSION

A preliminary search of the English language-literature produced the following list of species on which this bee-eater has been seen to perch.

- Ostrich *Struthio camelus* Van Someren 1945, North 1944, this paper
- White Stork *Ciconia ciconia* Conacher 1970
- Abdim's Stork *Ciconia abdimii* Baker 1867 (Mackworth-Praed 1946 refers to Baker), Neumann 1898, Aylmer 1944
- Secretary Bird *Sagittarius serpentarius* This paper
- Tufted Guinea Fowl *Numida meleagris* This paper (attempts at riding only)
- Crowned Crane *Balearica pavonina* Guichard 1947
- Arabian Bustard *Ardeotis arabs* Bannerman 1931, Cave 1946
- Kori Bustard *Ardeotis kori* Neumann 1898, Moreau 1943, Jackson 1945, Van Someren 1945, Meinertzhagen 1959, Grimwood 1964, this paper
- Burchell's Zebra *Equus burchelli* Grimwood 1964
- Wart Hog *Phachochoerus aethiopicus* Meinertzhagen 1959, this paper
- Camel *Camelus dromedarius* This paper
- Domestic cattle (Bovidae) Thesiger & Meynell 1935
- Domestic sheep (*Ovis* sp.) Neumann 1898, Bannerman 1931, Aylmer 1944, North 1944
- Domestic goats (*Capra* sp.) Neumann 1898, Aylmer 1944, this paper
- Gerenuk *Litocranius walleri* Grimwood 1964
- Beisa Oryx *Oryx gazella beisa* This paper
- Grant's Gazelle *Gazella granti* Grimwood 1964
- Topi *Damaliscus korrigum* Grimwood 1964

In the area the species also uses inanimate perches like bushes, trees and roadside wires. Two of the above observations show that animate perches are also used simply as look-out positions and not only as beaters. The species is also a well-known attender at bush fires. Cheesman (1936) noticed this in Ethiopia, Cave and MacDonald (1955) refer to it in the Sudan.

The flight attendance on a moving motor vehicle, using it as a "beater" has only once previously been recorded (Jackson 1954). No one has yet seen a bee-eater riding on a car, but the hovering of the single bird above our landrover could suggest that this may yet be observed.

Jackson also found that the birds on one occasion followed him for the same purpose. That the species will fly alongside a car and a human being in pursuit of prey helps to confirm that similar attendance on galloping oryx is deliberate and not merely to "keep up". Praed and Grant (1952) say "they follow animals or even large birds such as Bustards for the insects they disturb".

Meinertzhagen (1959 p.222) claims that he had "a whole breeding colony" of the Southern Carmine Bee-eater *Merops nubicoides* "floating round me in the sunlight and catching insects I disturbed as I walked through the grass". (Meinertzhagen also says "On the Zambesi I have seen *M. n. nubicoides* on sheep and cattle" but he is the only person to have seen the Southern Bee-eater using animate perches.)

Fry (1969) points out that, unlike most of the other fifteen members of the bee-eater family endemic to Africa, the species *Merops nubicus* (which he regards incidentally as only racially distinct from *M. nubicoides*) is the only one that does not feed on honey-bees *Apis mellifera* and other airborne Hymenoptera, but preys instead mainly on locusts. The fact that the southern form is apparently unknown to perch on other creatures is interesting, although it has "the habit of following man or game for the insects they disturb" (Mackworth-Praed and Grant 1962). There is also a record of the southern form following a bird. M. P. Stuart Irwin and C. W. Benson (*in litt.*) on 4th February 1965, at Nata in north-east Botswana, saw two birds "following an *Ardeotis kori* and swooping down to within a few feet of the large bird as it walked through the long grass". The bee-eaters were obviously using the bustard as a beater.

Grimwood (1964) saw *Merops nubicus* using three species of large mammal at the north end of Lake Rudolf but added: "It was noticeable how they refrained from perching on Oryx, presumably because they could be swept off by the long horns". At Awash I saw only the one instance that allowed a possible interpretation of mammalian annoyance at an avian jockey. An oryx twice threw back its head, and was all the time wagging its tail as if it wanted to remove the bee-eater. But the bird was immune from both in its usual position at the highest point of the spine. It could be that this is why the bird chooses this position, but my firm impression is that oryx are usually indifferent to the presence of riders.

It is interesting to speculate on whether in the case of a regular association like *Oryx-Merops* the value is not merely commensal but symbiotic, as it is with *Buphagus* (Meinertzhagen 1959 pp. 210-11) which acts as a sentinel, warning game of impending danger.

One wonders also whether the bee-eater might not also roost on the backs of game animals to save the trouble of having to find them again in the morning as *Buphagus* is also known to do (Dowsett 1968, Meinertzhagen 1959 p. 198).

Lastly, it is worth adding that the breeding birds re-occupy the Awash colony in late February/early March, and may still be feeding young as late as early July.

SUMMARY

The Northern Carmine Bee-eater *Merops n. nubicus*, when hunting, will use inanimate perches, including telegraph wires, as look-outs. It uses animate perches similarly, but also as "beaters" both by perching on the animals themselves and by following them in flight. Human beings and motor vehicles are also followed in flight (the bird also attends bush fires). The paper lists this bee-eater as perching on four species of domestic mammal (one "new"),

six species of wild mammal (one "new"), and eight species of wild bird (one "new").

References:

- Aylmer, G. 1944. The Use of Animate Perches by the Carmine Bee-eater. *Ibis*, 86: 554.
- Baker, Sir Samuel 1867. *The Nile Tributaries of Abyssinia*. London.
- Bannerman, D. A. 1931. *Birds of Tropical West Africa*. Oliver and Boyd.
- Cave, F. O. 1946. Some further notes on *Merops-Ardeotis* perching associations, *Ibis*, 88: 236-238.
- Cave, F. O. and MacDonald, J. D. 1955. *Birds of the Sudan*. Oliver and Boyd. Edinburgh and London.
- Cheesman, R. E. 1936. *Lake Tana and the Blue Nile*. London.
- Conacher, G. 1970. Note on two White Storks each carrying Carmine Bee-eater. *Newsletter No. 37* Ethiopian Wildlife and Natural History Society.
- Dowsett, R. J. 1968. Oxpeckers *Buphagus* spp. on game animals at night. *Bull. Br. Orn. Cl.*, 88(7): 130-132.
- Fry, C. H. 1969. The Evolution and Systematics of Bee-eaters (Meropidae). *Ibis*, 111: 557-591
- Grimwood, Ian 1964. The Northern Carmine Bee-eater *Merops nubicus* Gmelin using animal perches. *Bull. Br. Orn. Cl.*, 84(6): 105-106.
- Guichard, K. M. 1947. Birds of the Inundation Zone of the River Niger, French Sudan. *Ibis*, 89: 450-489.
- Jackson, T. H. E. 1945. Some *Merops-Ardeotis* Perching Associations in Northern Kenya. *Ibis*, 87: 284-286.
- Mackworth-Praed, C. W. 1946. Animate Perch Associations. *Ibis*, 88: 132.
- Mackworth-Praed, C. W. and Grant, C. H. B. 1952. *Birds of Eastern and North-eastern Africa*. Longmans.
- 1962. *African Handbook of Birds Series 2*. Longmans.
- Meinertzhagen, R. 1959. *Pirates and Predators*. Oliver and Boyd. Edinburgh.
- Moreau, R. E. 1943. Dr. J. G. Myers on Migrants and on Bird Insect-Nesting Associations in the Sudan. *Ibis*, 85: 97-101.
- Neumann, Alfred 1898. *Elephant Hunting in East Africa*. London.
- Nickerson, B. 1958. Some observations on the Carmine Bee-eater in the French Sudan. *Ibis*, 100: 454-456.
- North, M. E. W. 1944. The Use of Animate Perches by the Carmine Bee-eater and other African species. *Ibis*, 86: 171-176.
- Someren, V. G. L. van 1945. The Use of Animate Perches. *Ibis*, 87: 109.
- Thesiger, W. and Meynell, M. 1935. On a collection of birds from Danakil, Abyssinia. *Ibis*, 5 (Series 13): 774-807.

POSTSCRIPT

I returned to the cotton plantation of Mitchell-Cotts in the Wollo Province for the period 2nd to 16th May, 1970. Up to five *Merops nubicus* at a time were seen perching on camels, and the birds were regularly observed on goats and Arabian Bustards. On two occasions they were being carried by ostriches. From one to twelve birds were seen following landrovers on grassy tracks, or tractors ploughing the cotton fields. During the same period Dr. Sigrun Klug saw a *Merops nubicus* perch briefly on the back of a Black-headed Heron *Ardea melanocephala*, and Deiter Plage saw one of a dozen birds attending a tractor actually perch on the moving vehicle for about thirty seconds. These last two observations are quite new.

[From experience in Zambia, R. J. Dowsett writes that he has never found the Southern Carmine Bee-eater associating with any animal or vehicle, although it is abundant in the Luangwa Valley, where he spent most of his time during 1965-67. He has often found it at bush fires and hawking from a perch. However, M. Milton has recently recorded these bee-eaters in Rhodesia using guineafowl *Numida meleagris* as "beaters" and apparently even perching on them (see *Honeyguide*, Bulletin of the Rhodesian Ornithological Society, 61, 1970: 8). But such behaviour must be rare in the southern form. On the other hand, Dowsett finds that the Blue-cheeked Bee-eater *Merops superciliosus persicus* commonly feeds on insects disturbed by vehicles, in southern Zambia, following them in flight for several hundred yards on occasion—Ed.]